Extron® Electronics

INTERFACING, SWITCHING AND CONTROL
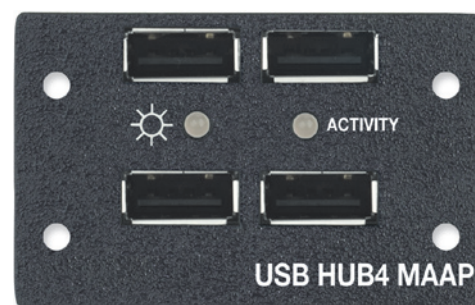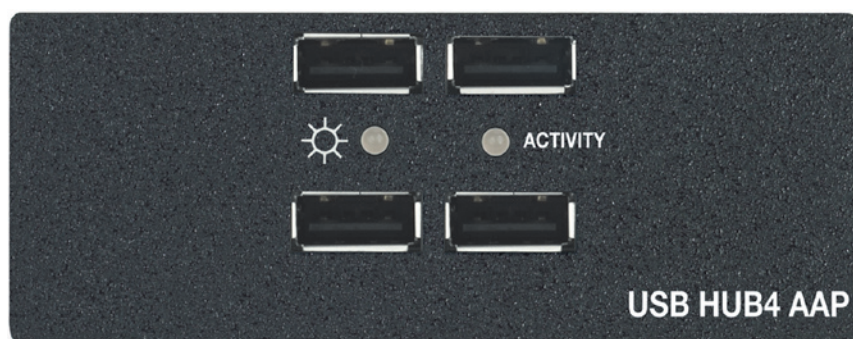
SERVICE SUPPORT SOLUTIONS 3

User's Manual

USB HUB4 AAP

USB HUB4 MAAP

USB HUB4 Series

AAP and MAAP USB Hubs

Precautions

Safety Instructions • English

⚠ This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

⚡ This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français

⚠ Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).

⚡ Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conserver les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Eviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch

⚠ Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

⚡ Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español

⚡ Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.

⚡ Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrian implicar riesgos.

安全须知 • 中文

⚠ 这个符号提示用户该设备用户手册中有重要的操作和维护说明。

⚡ 这个符号警告用户该设备机壳内有暴露的危险电压, 有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解所有安全和使用说明。

保存说明书 • 用户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备, 以避免危险。

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentations • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'll y a remplacment incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un ype équivalent recommande par le constructeur. Mettre au reut les batteries usagees conformement aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Litium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

警告

电源 • 该设备只能使用产品上标明的电源。 设备必须使用有地线的供电系统供电。 第三条线（地线）是安全设施, 不能不用或跳过。

拔掉电源 • 为安全地从设备拔掉电源, 请拔掉所有设备后或桌面电源的电源线, 或任何接到市电系统的电源线。

电源线保护 • 妥善布线, 避免被踩踏, 或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。 设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔, 它们是用来防止机内敏感元件过热。 不要用任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使用与厂家推荐的相同或相近型号的电池。 按照生产厂的建议处理废弃电池。

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

The Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

NOTE *This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance with FCC emissions limits.*

Table of Contents

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Chapter One

Introduction

About this Manual

About the USB HUB4

Application Diagram

Introduction

About this Manual

This manual contains information about the installation and operation of the Extron USB HUB4 AAP and the USB HUB4 MAAP. The terms "hub" and "HUB4" are used to refer to both models interchangeably when instructions apply to both.

About the USB HUB4

The USB HUB4 AAP and USB HUB4 MAAP are compact, four-port USB hubs designed to mount within a double-sized Extron AAP or MAAP frame. They enable multiple USB devices to be connected to a single USB port on a host computer and can be mounted in a variety of locations. The MAAP models are available in a black or white finish; the AAP models are available in black, white, and RAL9010 white.

Features

The USB HUB4 products feature the following:

USB 2.0 compatibility — The HUB4 is compatible with USB 2.0, enabling communication with a variety of USB peripheral devices.

Mounting options — The HUB4 faceplate can be mounted on a wall, furniture, or in Extron architectural products (such as Cable Cubbies or HSA Hideaway Surface Access enclosures) that accept double-sized MAAP or AAP connector panels.

Power — The USB HUB4 can be powered directly from a computer via the USB connection, or with an optional Extron PS 1210 C external 1 A, 12 VDC power supply.

Front panel LEDs —

- The Activity LED lights when any peripheral device has been enumerated (has been recognized and has had communication established) by the USB host and is currently communicating with it.

- The Power LED lights when the HUB4 is receiving power from either an external power supply through the Power In captive screw port or from the USB host connection.

Multiple USB device connections — The USB HUB4 can be connected to a host computer either by a conventional Type A-to-Type mini B USB cable or a captive screw connection (for areas where space is restricted).

Four USB Type A connectors on the front panel enable up to four peripheral devices to be connected to a host PC via a single USB connector on the computer.

Application Diagram

The following diagram shows an example of a USB HUB4 AAP mounted to an MLM wallplate and installed in a podium.
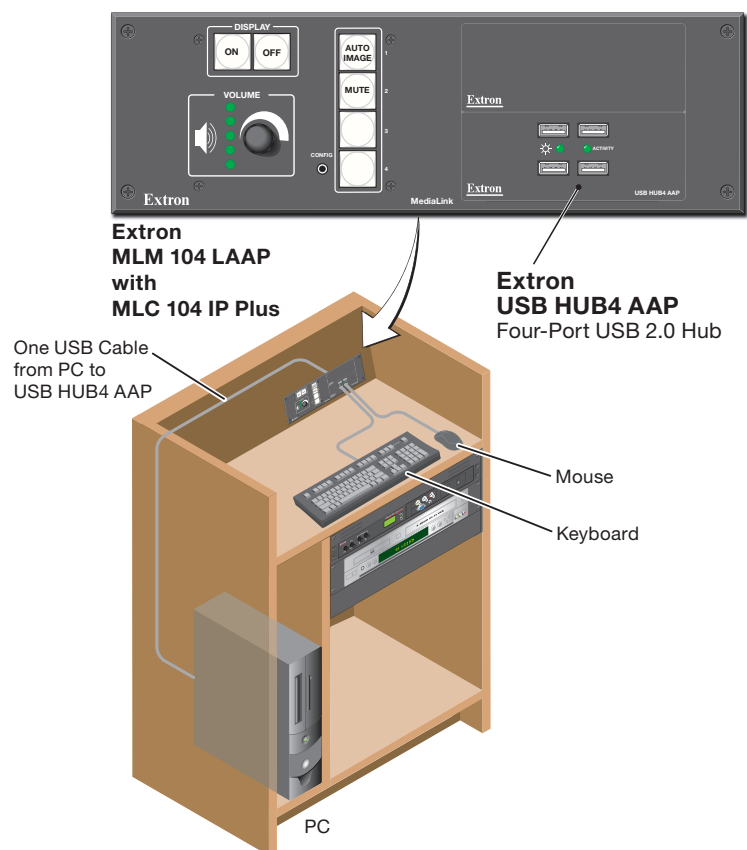
Application diagram for a USB HUB4 AAP

Introduction, cont'd

Chapter Two

Installation

Installation

Installation Overview

1 If using an electrical box or a mounting bracket, install it in the wall or furniture. See "Wall or furniture mounting", later in this chapter.

2 Mount the USB HUB4 into an appropriate sized AAP or MAAP mounting frame, rack space frame, or other Extron architectural product. See "Mounting the hub to a mounting frame", later in this chapter, for the procedure.

3 Connect the USB HUB4 to the host computer in either of the following ways:

- **Using the Type mini B USB connector:** Connect a type A-to-Type mini B cable (provided) to the USB mini B connector on the HUB4 rear panel.

- **Using the green captive screw USB In port:** Remove the Type B or Type mini B terminator from a Type A-to-B or Type A-to-mini B USB cable and insert the cable's wires into the 5-pole USB In connector. This method may be necessary if space is limited. (See "Connecting to the captive screw USB connector", later in this chapter.)

NOTE *Choose **one** of these two methods to connect the HUB4 to the host computer. **Do not** connect the host computer to both HUB4 connectors at the same time.*

4 (Optional) If the USB peripheral devices that are connected to the HUB4 require more power than the hub can provide, wire an optional Extron PS 1210 C external 1 A, 12 VDC power supply (part #70-775-01) to the Power In ports on the rear panel. (See "Connecting the external power supply", later in this chapter.)

5 (Optional) If using an electrical box, mount the HUB4 and mounting frame to it. (See "Mounting the hub to a wall box", later in this chapter.) If you are using a mounting bracket, this step is not needed.

6 Connect your peripheral USB devices to the front panel USB Type A connectors.

7 Power on the host PC and, if applicable, the desktop power supply.

Check the front panel power indicator LED ☼ ● to verify that the HUB4 is receiving power.

Rear Panel Connections
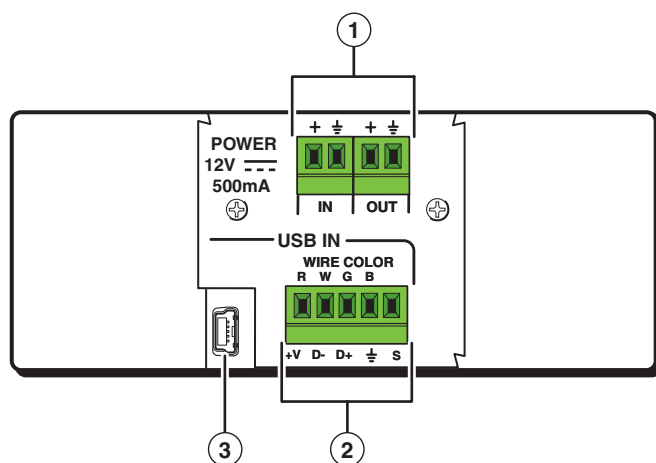
USB HUB4 AAP rear panel   *USB HUB4 MAAP rear panel*
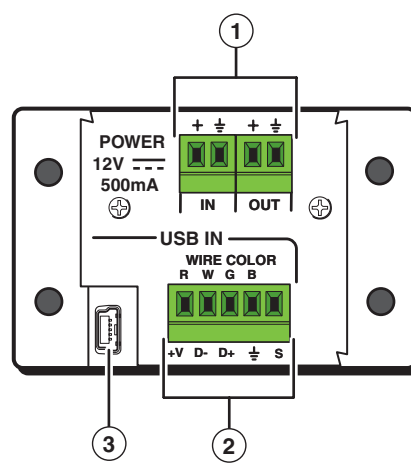
The rear panels of the USB HUB4 AAP and MAAP models contain two types of USB In connectors, either of which can be used for the USB cable that connects your computer to the HUB4.

① **Power connector** — If using an Extron external 12 VDC power supply to power the HUB4, connect it to the first two pins (labeled In) of this 4-pole, 3.5 mm direct insertion captive screw connector. (See "Connecting to the captive screw USB connector", below)

If desired, connect another Extron wall mounted device (for example, an MLC 104 IP Plus AAP to which you have mounted the HUB4) to the third and fourth pins (labeled Out). Both devices can then be powered from the single connected power supply (power loop out).

(If the HUB4 is powered from your computer via the USB connection, this connector is not used.)

NOTE *Ensure that your system's power requirements do not exceed the capacity of the Extron 12 VDC power supply. The current is limited to 100 mA per port when the devices are powered via the USB port; 500 mA per port when they are powered via the power supply.*

USB In connectors

Two types of USB connectors provide alternative ways to connect the computer to the HUB4.

② **Captive screw connector** — Connect a Type A to unterminated Type B or mini B USB cable from the computer to this 5-pole 3.5 mm captive screw connector. (See "Connecting to the captive screw USB connector", below.)

③ **Type mini B USB connector** — Connect a Type A-to-mini B USB cable from the computer to this Type mini B USB connector.

NOTE *Only one host can be connected to the USB In connectors at a time. If two hosts are connected, the HUB4 defaults to the host attached to the Type mini B connector.*

Connecting to the captive screw USB connector

It is recommended that you connect your computer to the HUB4 by plugging the mini Type B end of the provided USB cable to the USB port on the rear panel. If, however, your space is limited and you need to use the captive screw USB In connector instead, prepare and connect the cable as follows:

1. Cut off the Type B end of a Type A-to-B or A-to-mini B USB cable. (Do not remove the Type A plug.)

2. Strip away the exterior jacket and the foil insulation from the unterminated end of the cable to expose 1 to 2 inches (or 3 to 6 cm) of the wires and shield.

CAUTION *Do not cut or remove the braided shield.*
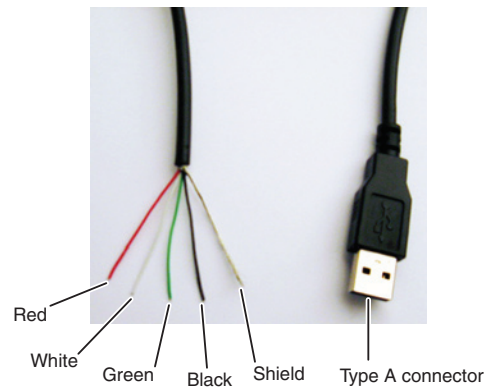
USB Type A-to-B (or mini B) cable with the Type B connector removed

3. Twist the exposed shield strands together.

4. Strip 1/8 inch (4.5 mm) of the insulation from the end of each colored wire of the cable.

5. Connect the colored wires and the twisted shield to the HUB4 as described below. Note that each pin of the connector is labeled above with the color of the wire that should be connected to it (R, W, G, and B), based on the USB standard for wiring color schemes.

   V+/R — +5 VDC. Connect the **red** wire to this port.

   D-/W — Data –. Connect the **white** wire to this port.

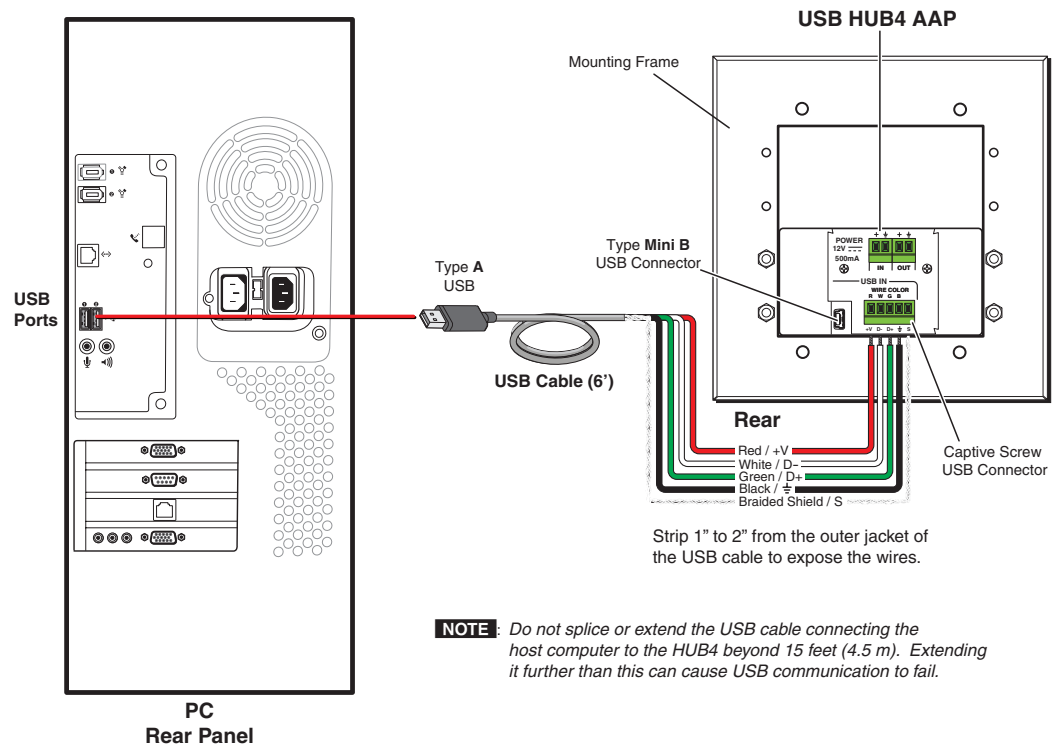   **D+/G** — Data +. Connect the **green** wire to this port.

   ⏚/B — Ground. Connect the **black** wire to this port.

   S — Shield. Connect the braided shield to this port.

6. Plug the Type A end of the USB cable into a USB port on your computer.

Type **A**
USB

USB Cable (6')

Type **Mini B**
USB Connector

USB HUB4 AAP

Mounting Frame

POWER
12V
500mA

USB IN
WIRE COLOR
R W G D

IN OUT

Captive Screw
USB Connector

Rear

Red / +V
White / D–
Green / D+
Black / ⏚
Braided Shield / S

Strip 1" to 2" from the outer jacket of
the USB cable to expose the wires.

**USB
Ports**

**PC
Rear Panel**

NOTE : *Do not splice or extend the USB cable connecting the
host computer to the HUB4 beyond 15 feet (4.5 m). Extending
it further than this can cause USB communication to fail.*

Connecting the PC to the USB captive screw connector

Connecting the external power supply

If the peripheral devices connected to the HUB4 require more power per port to
than the 100 mA that is provided through the computer or if you want to drive an
additional device from the same power source, you can attach an Extron PS 1210 C
external 1 A, 12 VDC power supply to the hub to increase the power to 500 mA per
port.

NOTE *It is recommended that you use a 12 VDC external power supply if planning to
use flash drives or webcams, because those devices typically require greater than
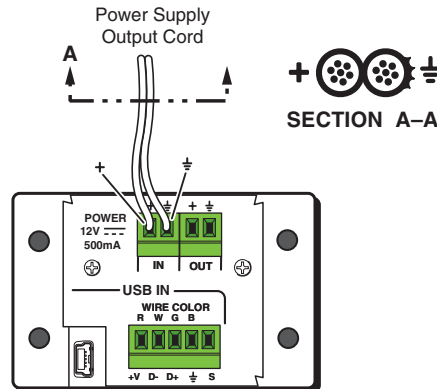100 mA.*

If only a keyboard and mouse are being powered, 100 mA is usually sufficient.

NOTE *Use only the Extron PS 1210 C power supply (part #70-775-01) with the
USB HUB4.*

Installation, cont'd

To wire the Extron external power supply,

1. Connect the power supply to the In pins (first and second) of the Power direct insertion connector as illustrated below.

Wiring the power connector

2. (Optional) If you want the power supply to power an additional wall-mounted Extron device via the USB HUB4, wire the additional device to the Out pins (third and fourth) of the Power direct insertion captive screw connector.

    The example below shows the HUB4 connected to a WM Series Extender, which is mounted in the wallplate next to the HUB4.

    NOTE *Always take into consideration the total power consumption of the system.*
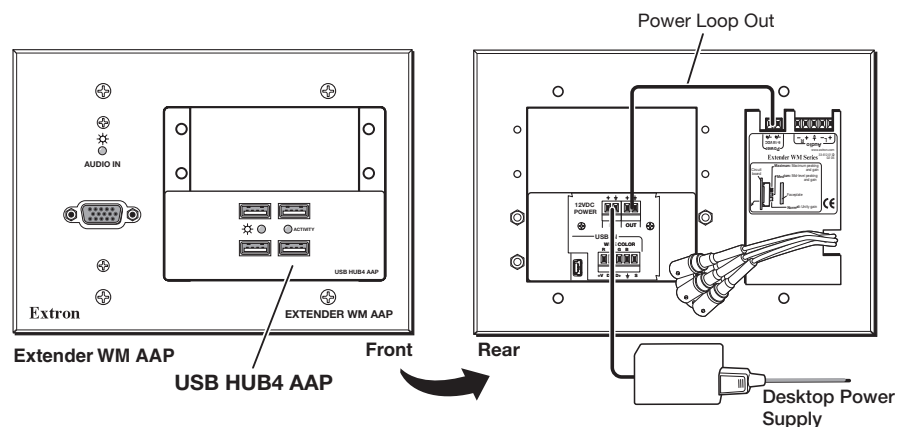
Providing power to an external device via the USB HUB4

3. Plug the external power supply's IEC connector into an AC power source.

Front Panel Features

USB HUB4 AAP front panel
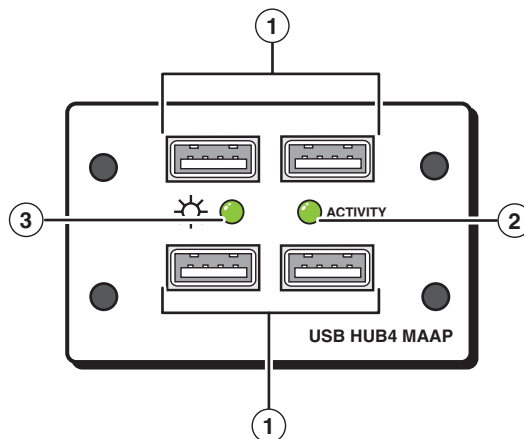
USB HUB4 MAAP front panel

① **USB hub connectors** — Connect up to four USB peripheral devices (for example, a keyboard, mouse, or Web cam) to these Type A female USB connectors. Each USB port provides 100 mA of power when the HUB4 is powered via the host computer; 500 mA when it is powered by an Extron PS 1210 C 12 VDC external power supply.
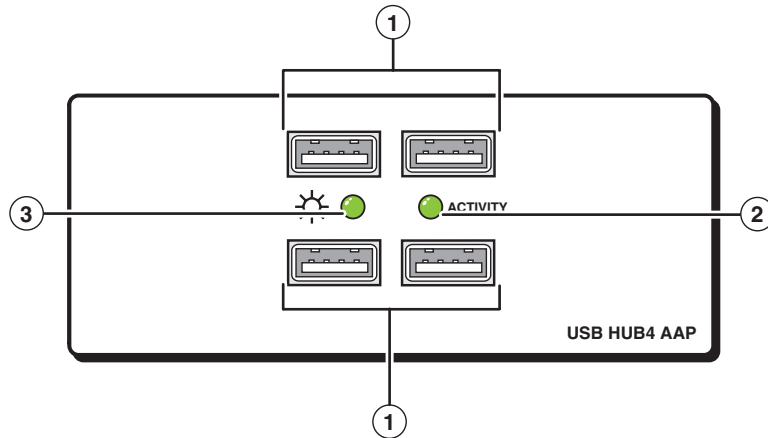
② **Activity LED** — This LED lights when any peripheral device is enumerated by the USB host.

③ **Power LED** — This LED lights if the HUB4 is receiving power through either the Power In port (from an Extron external power supply) or the rear panel USB host connector.

NOTE *If the host computer is providing power to the HUB4, the power LED on the front panel illuminates only if the host PC is powered on.*

If the HUB4 is powered by the optional Extron PS 1210 C 12 VDC power supply, the LED illuminates regardless of whether or not the host computer is on.

Mounting the USB HUB4

The USB HUB4 can be mounted to a wall, on a rack, in furniture, or in an Extron architectural product, such as a cable cubby or HSA.

Wall or furniture mounting

The HUB4 can be attached to a wall, podium, or other flat surface with either a stud-mounted wall box or with a wall mounting bracket (such as the Extron MR or MR D series). Both types of installations require a double-spaced AAP or MAAP mounting frame (such as the AAP 102 or the CPM101).

Installing the wall box or mounting bracket

Use a one-gang sized wall box or mounting bracket for the HUB4 MAAP or a two-gang box or bracket for the AAP model. Install cables into the wall, furniture, or conduits before installing the wall box or bracket.

If using a wall box, the mounting site must be deep enough for both the box and the cables. The box should be at least 2.5 inches (6.4 cm) deep.

1. Place the wall box or mounting bracket against the installation surface and mark guidelines for the opening on the wall or furniture.

2. Cut out the material from within the marked area.

3. Insert the wall box or bracket to check the opening's size and fit. Enlarge or smooth the edges of the opening as needed.

4. If using a wall box, feed the cables through the box's punched out holes and secure the cable clamps to provide strain relief.

5. Exposed cable shields (braids or foil) are potential sources of short circuits. Trim back and/or insulate shields with heat shrink.
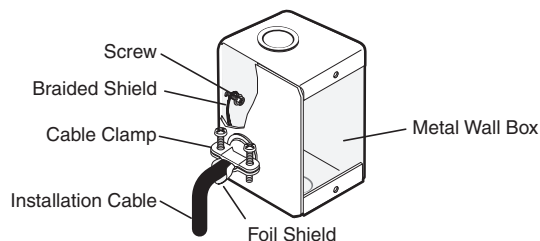
Grounding the outer braided and foil shields for a wall box installation

WARNING   *To prevent short circuits, cut back the outer foil shield to the point where the cable exits the cable clamp. Both braided and foil shields should be connected to an equipment ground at the other end of the cable.*

6. Insert the wall box or mounting bracket into the opening, and attach it to the wall, stud, or furniture, leaving the front edge flush with the outer wall or furniture surface.
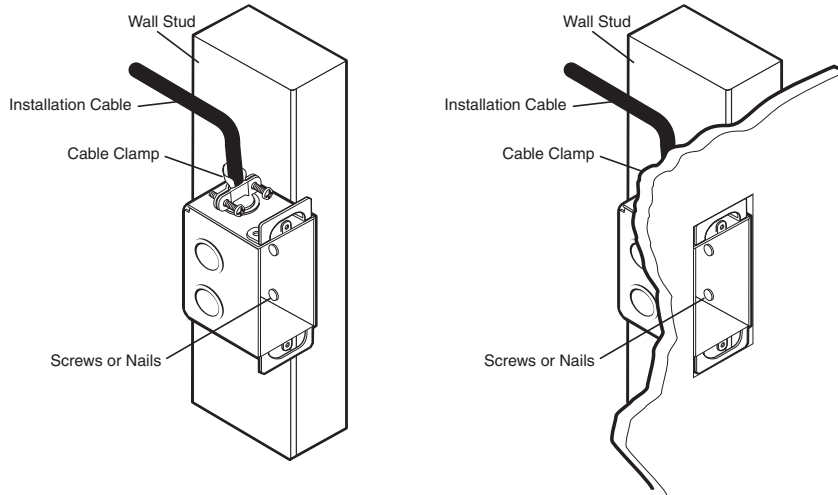
Attaching a wall box to a wall stud

- To attach a wall box to wood, use four #8 or #10 screws or 10-penny nails. A minimum of 1/2 inch (1.3 cm) of screw threads must penetrate the wood.

- To attach a wall box to metal, use four #8 or #10 self-tapping sheet metal screws or machine bolts with matching nuts.

- If using a mounting bracket, follow the directions included with the bracket to attach the clips that fasten the bracket to the wall or furniture.

NOTE *Cable and test the HUB4 before mounting it to the wall box, mounting bracket, or furniture.*

Mounting the hub to a mounting frame

If the HUB4 will be mounted to a wall box or mounting bracket, it must first be mounted into an AAP or MAAP mounting frame, such as the Extron AAP 102 or CPM101. See "Optional accessories" in appendix A, "Reference Material", for information on ordering the mounting frames.

Follow the steps below to mount the HUB4 into the appropriate size mounting frame.

USB HUB4 AAP:

1. Insert the four threaded studs on the back of the front panel through the holes in an AAP mounting frame and seat the HUB4 in the frame's two-gang opening.

2. Attach the provided hex nuts to the studs on the back side of the frame.

See the example on the next page.

AAP 102 Mounting Frame

**Extron
USB HUB4 AAP**
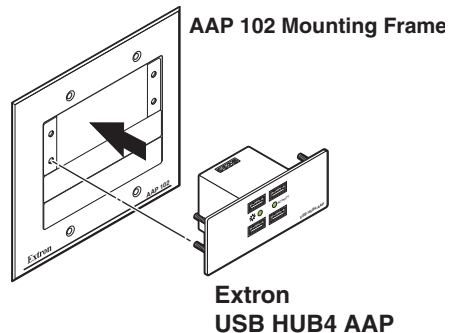
Mounting a USB HUB4 AAP to a two-gang mounting frame

USB HUB4 MAAP:

1. Place the HUB4 MAAP in the one-gang opening in the mounting frame.

2. Insert the included hex screws through the HUB4 front panel mounting holes and the holes in the MAAP mounting frame.

3. Attach the provided hex nuts to the screws on the back of the frame.

Mounting the hub to a wall box

To mount the HUB4 to an electrical box in a wall or furniture,

1. Mount the HUB4 into a mounting frame as described in the previous section.

2. Attach all power and USB cables to the HUB4 rear panel connectors and test the system.

3. Attach the mounting frame with the attached HUB4 to the wall box, using the two included mounting screws.

Wall opening
flush with
edge of box

**Extron
USB HUB4**
USB Hub

**Extron
CPM101**
Mounting Frame
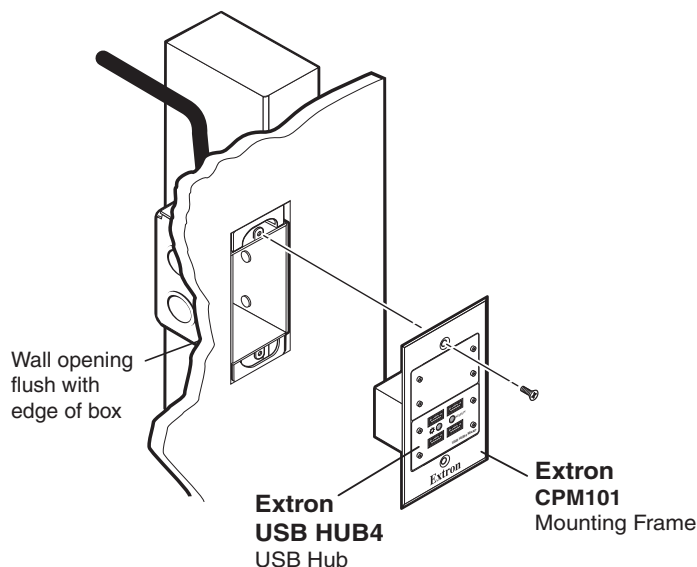
Installing a USB HUB4 MAAP in a one-gang wall box

Mounting the hub to a mounting bracket

1. Mount the HUB4 to an AAP or MAAP mounting frame (see "Mounting the hub to a mounting frame", earlier in this chapter.

2. Attach all required cables to the HUB4's rear panel connectors and test the system.

3. Attach the AAP or MAAP mounting frame with the attached HUB4 to the mounting bracket using the two included mounting screws.

Mounting a USB HUB4 MAAP to a mounting bracket

Rack mounting the USB HUB4

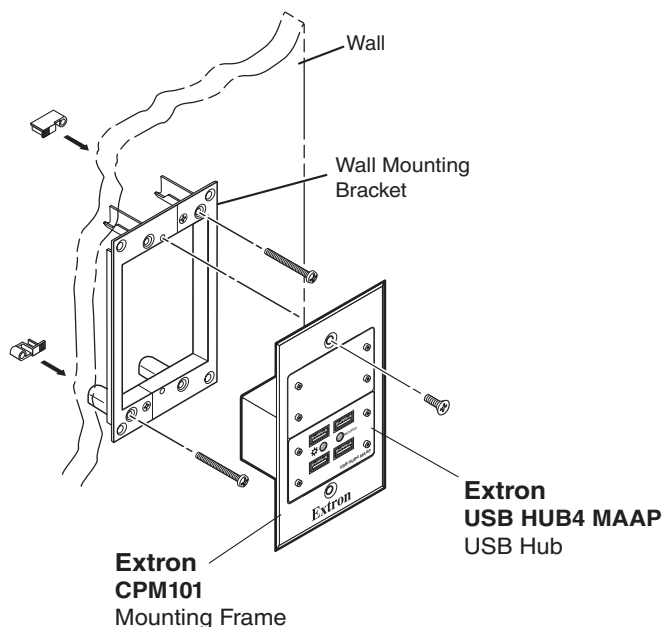You can mount the HUB4 to an optional rack shelf or directly onto a rack using an Extron rack space frame, such as the CPM112R (for the MAAP model) or the AAP 301/302 (for the AAP model). See "Optional accessories" in appendix A, "Reference information", for a list of rack shelves and rack space frames that can be used with the two USB HUB4 models.

UL guidelines for rack mounting

The following Underwriters Laboratories (UL) guidelines pertain to the installation of the USB HUB4 onto the front of a rack:

- **Elevated operating ambient temperature** — If the equipment is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consider installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

- **Reduced air flow** — Install the equipment in the rack so that the amount of air flow required for safe operation of the equipment is not compromised.

- **Mechanical loading** — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.

- **Circuit overloading** — When connecting the equipment to the supply circuit, consider the connection of the equipment to the supply circuit and the effect that circuit overloading might have on overcurrent protection and supply wiring. Consider equipment nameplate ratings when addressing this concern.

- **Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (such as the use of power strips).

Installation, cont'd

Rack mounting procedure

To mount the USB HUB4 directly to a rack or to a rack shelf,

1. Connect all cables to the rear panel of the HUB4.

2. Insert the HUB4 in one of the spaces in a rack space frame and attach it to the frame using the provided hex screws and nuts.

3. Attach any desired additional AAP or MAAP devices to the rack space frame.

4. Attach the rack space frame to the rack shelf, using the provided screws.

5. If using a rack shelf, mount the shelf, with the HUB4 attached, to the rack.
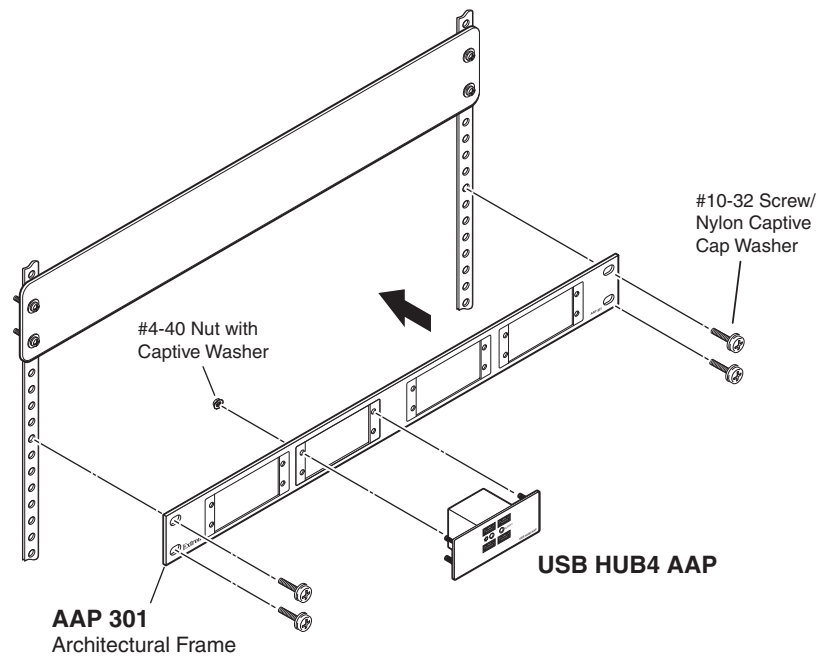
Mounting a USB HUB4 AAP directly to a rack using an AAP 301 frame
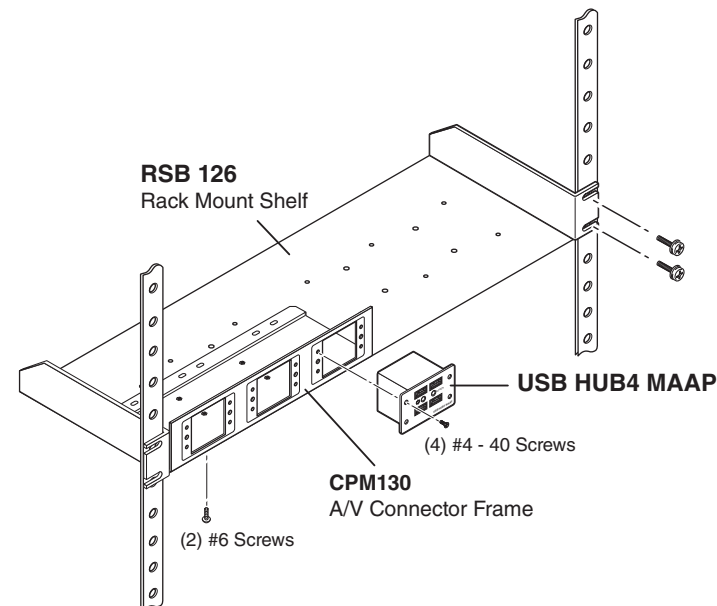
Mounting a USB HUB4 MAAP on a rack shelf using a CPM133 frame

Appendix A

Reference Material

Specifications

Part Numbers and Accessories

Reference Material

Specifications

USB

USB standards .... USB 2.0, USB 1.1, USB 1.0 compatible

USB data rates................................ Low speed (1.5 Mbps), full speed (12 Mbps), high speed (480 Mbps)

USB host

Number/signal type...................... 1 USB

Connectors .... 1 female USB mini B *or*
1 female 3.5 mm captive screw connector, 5 pole
(Only one port is active at a time.)

USB hub

Number/signal type...................... (1) 4 port USB

Connectors .... 4 female USB type A

General

Power .... 100 VAC to 240 VAC, 50-60 Hz, external; to 12 VDC, 1 A, regulated

Power input.................................... 12 VDC, 1.5 A

Temperature/humidity .... Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing

Cooling .... Convection, no vents

Mounting

    Rack mount .... Yes, with optional AAP or MAAP mounting frame

    Furniture mount................ Yes with optional AAP or MAAP mounting frame or Extron devices with
AAP or MAAP openings

Enclosure type .... Metal

Enclosure dimensions

    USB HUB4 AAP

        Faceplate..................... 1.4" H x 3.5" W x 0.1" D
(3.5 cm H x 8.9 cm W x 0.3 cm D) (double space AAP plate)

        Device .... 1.4" H x 1.4" W x 1.2" D
(3.5 cm H x 3.5 cm W x 3.0 cm D)
Allow at least 1.5" (3.8 cm) depth in the wall or furniture.

    USB HUB4 MAAP

        Faceplate..................... 1.4" H x 2.2" W x 0.1" D
(3.6 cm H x 5.6 cm W x 0.3 cm D) (double space MAAP plate)

        Device .... 1.4" H x 1.4" W x 1.2" D
(3.5 cm H x 3.5 cm W x 3.0 cm D)
Allow at least 1.4" (3.5 cm) depth in the wall or furniture.

Product weight .... 0.25 lbs (0.1 kg)

Shipping weight .... 1 lb (<1 kg)

Vibration.. ISTA 1A in carton (International Safe Transit Association)

Regulatory compliance

    Safety.................................... CE, c-UL, UL

    EMI/EMC .... CE, C-tick, FCC Class A, ICES, VCCI Class A

MTBF.. 30,000 hours

Warranty.. 3 years parts and labor

NOTE *All nominal levels are at ±10%.*

NOTE *Specifications are subject to change without notice.*

Part Numbers and Accessories

Included parts

Included part	Replacement part number
USB HUB4 MAAP (black, white, or RAL9010 white)	60-1030-11, -21, -51
USB HUB4 AAP (black or white)	60-1031-12, -22
USB Type A to USB mini Type B cable	26-264-06
USB HUB4 Series Setup Guide	

Optional accessories

The following items can be purchased from Extron for use with the USB HUB4.

Accessory	Part number
PS 1210 C 1 A, 12 VDC power supply	70-775-01
AAP 102 2 gang mounting frame (black or white)	60-300-02, -03
AAP 104 frame (black or white)	60-301-02, -03
AAP 106 frame (black or white)	60-531-02, -03
AAP 201 mounting frame, half rack, 1U (black)	60-302-02
AAP 202 mounting frame, half rack, 2U (black)	60-303-02
AAP 301 mounting frame, full rack, 1U (black)	60-632-02
AAP 302 mounting frame, full rack, 2U (black)	60-633-02
CPM101 MAAP plate, 1 gang (black or white)	60-583-11, -21
CPM112R MAAP rack mount connector panel (black)	60-584-12
CPM134 one-third rack width panel (black)	60-584-15
RSU 129 9.5" deep rack shelf kit	60-190-01
RSB 129 9.5" deep basic rack shelf	60-604-01
RSU 126 6" deep rack shelf kit	60-190-10
RSB 126 6" deep basic rack shelf	60-604-10

Reference Material, cont'd

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America,
and Central America:
Extron Electronics
1001 East Ball Road
Anaheim, CA 92805
U.S.A.

Europe, Africa, and the Middle East:
Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

Asia:
Extron Asia
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

Japan: Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

China:
Extron China
686 Ronghua Road, Songjiang
District
Shanghai 201611
China

Middle East:
Extron Middle East
Dubai Airport Free Zone
F12, PO Box 293666
United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

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